

**GENERAL ELECTRIC
COMPUTERS**

I-D-S

I-D-S is a unique new method of organizing business data. With I-D-S and a General Electric computer, it is a simple matter to consolidate, to interrelate, to process, and to report business information in time for management action to be effective.

GENERAL  **ELECTRIC**



The successful crossroads storekeeper of a hundred years ago kept on top of his business with a daybook and a good memory. Those two tools gave him all the data he needed to make day-to-day decisions on purchasing, inventory, sales, and eventual profit. Today's integrated business information system is electronic data processing's updated version of the storekeeper's method of keeping tab on interrelated functions.

Integrated business systems recognize these interactions and provide capabilities to process the resulting data on the basis of their changing relationships. Each system is designed to store and process vast quantities of data, and to present consolidated reports that are timely enough to be meaningful to management decisions.

Such systems existed before I-D-S. But, what kind of systems were they? Could they be implemented easily? Could they be maintained easily? Could you add information, make changes or deletions with relative ease? Was computer processing economical?

In *some* cases a "Yes" answer is indicated; in *most*, the "Yes" must be qualified. Consider these factors. Generally, it takes 18 months to two years to implement such a system. Conventional organization is function-by-function — each with a bulky file. Mandatory cross-referencing to show interaction among functional operations becomes as intricate as a 1000-piece jigsaw puzzle. The pieces fit, but putting them together takes time. Many computer runs are necessary to process the files since each file must be processed separately. Then, the results must be coordinated and correlated. Computer time and business time are wasted. I-D-S provides a total answer to these problems — a *single* file organized around the data instead of the function.

I-D-S

Integrated Data Store

How I-D-S Works

I-D-S substitutes a single, consolidated, interrelated file for the individual files of the conventional system. Using mass random access memory, information within the file is linked together into functional “chains” composed of key elements and detail elements. Chains are linked together automatically, so that a key element in one may be a detail element in another. But there is no redundancy in storing data, in processing data, or in maintaining data. The interlocking relationships of pertinent information are automatically cross-referenced into chains. These characteristics alone cut implementation time, processing time, and maintenance time. Accuracy and economy are proportionately increased.

The chaining feature is the fundamental structuring tool of I-D-S. Chains are made up of all the information about a particular function — for example, a purchase order. A chain must contain one key element (the purchase order number) and can contain any number of qualified elements (other data directly related to the purchase order).

If it is desirable to relate all the purchase order records to a given vendor, a new chain (Vendor Order) is created with the vendor record as the key element. The purchase order records already in the purchase order chains become detail elements in the Vendor Order Chain; they serve two roles.

But all information is packed into a single file. It is cross-referenced to facilitate access by all functions of the business. It contains all the information that conventional systems put into several files. It gives you faster implementation, programming, maintenance, and processing.

I-D-S uses a simple language consisting of just four instructions to control information processing. These four instructions are the verbs, “PUT”, “GET”, “MODIFY”, and “DELETE”. It’s a language that’s easy for programmers to learn and easy for them to use. These four powerful macro instructions achieve the four major processing functions:

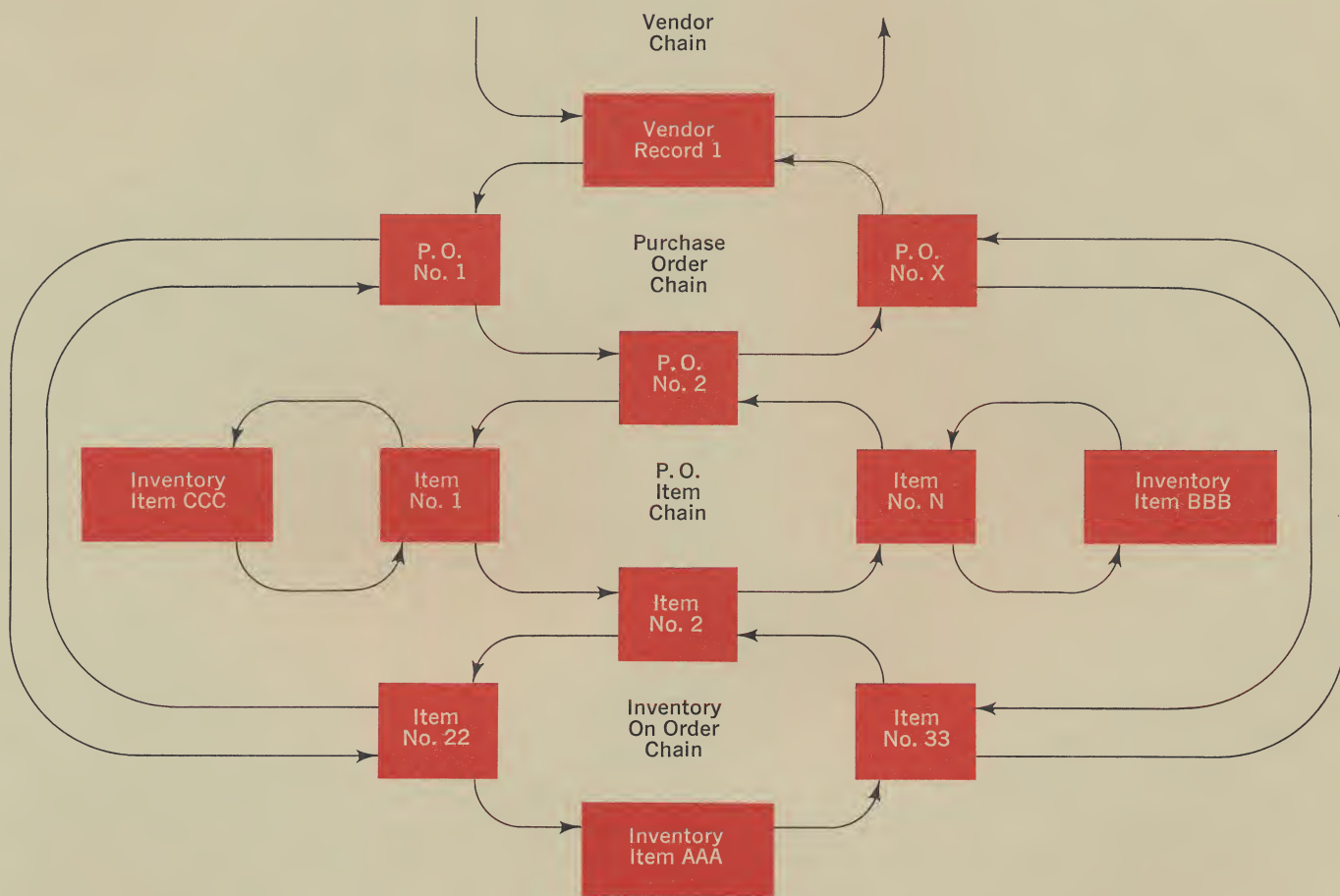
PUT — stores information and links it into chains

GET — retrieves information from the file

MODIFY — changes or updates information

DELETE — removes information from the file and relinks chains

These macro instructions reduce the problem-solving logic required, particularly in complex chain structures. They are the sole access to the mass memory when using I-D-S. They not only control the manipulation of information within the memory, they also control manipulation of the hardware. The simplicity of the language significantly reduces the programming cycle because it is so easy to learn and so easy to use. Verbs in the I-D-S language are complementary to verbs in the existing COBOL and FORTRAN languages.



What I-D-S Does For You

I-D-S now makes optimum utilization of mass random access storage, data communications equipment, and fast processors possible. Specifically, I-D-S gives you:

- Clear insight toward the understanding of information relationships. This powerful new tool for the implementation of integrated business systems simplifies describing the complex structure of real-time and semi-real-time operations. A conservative estimate of 25 percent overall reduction in automating business systems has been made by users of I-D-S with the Compatibles/200 family of General Electric computers.
- Reduced time and costs for design, programming, and testing. I-D-S has made the Disc Storage Unit (DSU) an extension of memory and as such has eliminated the need for considering hardware when programming. This is important because of the multitude of elements that must be included in an integrated system. And, I-D-S has been implemented and proved in actual working environments. No pioneering effort is required.
- I-D-S provides a uniform discipline resulting in improved communication between your system designers and programmers.
- I-D-S gives you better file utilization through elimination of redundancy, which, in turn, significantly reduces costs of information maintenance.

HARDWARE REQUIREMENTS

I-D-S can be used with any of General Electric's families of Compatibles — the Compatibles/200, the Compatibles/400, or the Compatibles/600. Equipment configuration should include:

Central Processor with 8192 words of core memory

Four Tape Handlers

Card Input/Output

8-disc Disc Storage Unit (DSU)

High-speed Printer

I-D-S DETAILS

Integrated Data Store is a powerful problem-solving technique which displays General Electric's competence and foresight in the field of business systems research and design. It is ready for you to use today. Representatives at any of the listed District Offices can show you the value and effectiveness of I-D-S. They'll be happy to give you the details.



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